

PATENT  
ATTORNEY DOCKET NO. 50026/012001

Certificate of Mailing: Date of Deposit: October 18, 2004

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Janet D'Annunzio-Ellis  
Printed name of person mailing correspondence

Janet D'Annunzio-Ellis  
Signature of person mailing correspondence

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Keiyo Ozawa et al.

Art Unit: 1634

Serial No.: 09/142,305

Examiner: B. Sisson

Filed: September 10, 1999

Customer No.: 21559

Title: FUSION PROTEIN THAT IMPARTS SELECTIVE PROLIFERATION  
ACTIVITY

Mail Stop RCE  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

COMMUNICATION REGARDING  
INFORMATION DISCLOSURE STATEMENT

Applicants draw the Examiner's attention to the Supplemental Information Disclosure Statements ("IDSes") and Forms PTO-1449 mailed on September 19, 2002 and November 7, 2002. Applicants' file does not reflect that the Forms PTO-1449 which accompanied these IDSes were returned with an indication that the cited references were considered by the USPTO.

Applicants respectfully request that the Forms PTO-1449 be returned to Applicants with such indication.

If there are any charges or any credits, please apply them to Deposit Account No. 03-2095.

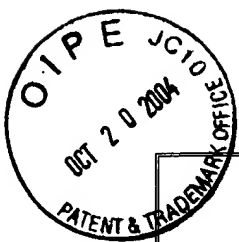
Respectfully submitted,

Date: October 18, 2004

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INFORMATION DISCLOSURE STATEMENT

Applicants submit the references listed on the enclosed Form PTO-1449. Copies  
of the following references cited therein are enclosed:

5,837,544 A

Alexander et al., "Point Mutations within a Dimer Interface Homology Domain of c-Mpl Induce Constitutive Receptor Activity and Tumorigenicity," *The EMBO Journal* 14(22):5569-5578 (1995).

Baumann et al., "Signaling by the Cytoplasmic Domain of Hematopoietin Receptors Involves Two Distinguishable Mechanisms in Hepatic Cells," *J. Biol. Chem.* 269(23): 16297-16304 (1994).

Bazan, "Structural Design and Molecular Evolution of a Cytokine Receptor Superfamily," *Proc. Natl. Acad. Sci. USA* 87:6934-6938 (1990).

Heldin, "Dimerization of Cell Surface Receptors in Signal Transduction," *Cell* 80:213-223 (1995).

Ihle, "Cytokine Receptor Signalling," *Nature* 377:591-594 (1995).

"MBC 3320 Steroid hormones and receptors," printout from <http://www.neurosci.pharm.utoledo.edu/MBC3320/steroids.html>, printed out October 13, 2004.

Murakami et al., "Critical Cytoplasmic Region of the Interleukin 6 Signal Transducer gp130 Is Conserved in the Cytokine Receptor Family," *Proc. Natl. Acad. Sci. USA* 88:11349-11353 (1991).

Omura et al., "Acceleration of Granulocyte Colony-Stimulating Factor-Induced Neutrophilic Nuclear Lobulation by Overexpression of Lyn Tyrosine Kinase," *Eur. J. Biochem.* 269:381-389 (2002).

Ozawa et al., US 2002/0004582 A1, published January 10, 2002.

Ozawa et al., US 2002/0004583 A1, published January 10, 2002.

Ozawa et al., US 2003/0166161 A1, published September 04, 2003.

Skoda et al., "Murine *c-mpl*: a Member of the Hematopoietic Growth Factor Receptor Superfamily that Transduces a Proliferative Signal," *EMBO J.* 12(7):2645-2653 (1993).

"Steroid Hormone Receptors and their Response Elements," printout from <http://users.rcn.com/jkimball.ma.ultranet/BiologyPages/S/SteroidREs.html>, printed October 13, 2004.

Thornton, "Evolution of Vertebrate Steroid Receptors from an Ancestral Estrogen Receptor by Ligand Exploitation and Serial Genome Expansions," *Proc. Natl. Acad. Sci. USA* 98(10):5671-5676 (2001).

Vigon et al., "Characterization of the Murine *Mpl* Proto-Oncogene, a Member of the Hematopoietic Cytokine Receptor Family: Molecular Cloning, Chromosomal Location and Evidence for a Function in Cell Growth," *Oncogene* 8(10):2607-2615 (1993).

Watowich et al., "Cytokine Receptor Signal Transduction and the Control of Hematopoietic Cell Development," *Annu. Rev. Cell Dev. Biol.* 12:91-128 (1996).

Copies of the following references are not enclosed because copies were submitted with the Supplemental Information Disclosure Statement mailed in this application on February 19, 2004, after a Final Office Action had issued:

5,686,281

5,747,292

6,416,998

Anderson, "Human Gene Therapy" *Nature* 392(Supp.):25-30 (1998).

Cheok, "Cancer Fears Cast Doubts on Future of Gene Therapy" *Nature* 421:678 (2003).

Cui et al., "Inhibitory Effect of a Soluble Transforming Growth Factor  $\beta$  Type II Receptor on the Activation of Rat Hepatic Stellate Cells in Primary Culture" *Journal of Hepatology* 39:731-737 (2003).

Finer et al., "*kat*: A High-Efficiency Retroviral Transduction System for Primary Human T Lymphocytes" *Blood* 83:43-50 (1994).

Juengst, "What Next for Human Gene Therapy" *BMJ* 326:1410-1411 (2003).

Kakuta et al., "Inhibition of B16 Melanoma Experimental Metastasis by Interferon- $\gamma$  through Direct Inhibition of Cell Proliferation and Activation of Antitumour Host Mechanisms," *Immunology* 105:92-100 (2002).

Kmieć "Gene Therapy" *American Scientist* 87:240-247 (1999).

Marcinkowska and Więdoła "Steroid Signal Transduction Activated at the Cell Membrane: from Plants to Animals," *Acta Biochimica Polonica* 49(3):735-745 (2002).

Maruyama et al., "Proliferation and Erythroid Differentiation through the Cytoplasmic Domain of the Erythropoietin Receptor," *The Journal of Biological Chemistry*, 269(8):5976-5980 (1994).

Morgenstern and Land "Advanced Mammalian Gene Transfer: High Titre Retroviral Vectors with Multiple Drug Selection Markers and a Complementary Helper-Free Packaging Cell Line" *Nucleic Acids Research* 18:3587-3596 (1990).

O'Farrell et al., "IL-10 Inhibits Macrophage Activation and Proliferation by Distinct Signaling Mechanisms: Evidence for Stat3-Dependent and -Independent Pathways," *The EMBO Journal* 17(4):1006-1018 (1998).

Roussel et al., "Colony-Stimulating Factor 1-Mediated Regulation of a Chimeric c-*fms*/v-*fms* Receptor Containing the v-*fms*-Encoded Tyrosine Kinase Domain" *Proc. Natl. Acad. Sci. USA* 85:5903-5907 (1988).

Verma and Somia, "Gene Therapy-Promises, Problems and Prospects," *Nature* 389:239-242 (1997).

Wang et al., "Yeast Two-Hybrid System Demonstrates that Estrogen Receptor Dimerization Is Ligand-Dependent *in Vivo*," *The Journal of Biological Chemistry*, 270(40):23322-23329 (1995).

Wimmel et al., "Autocrine Growth Inhibition by Transforming Growth Factor  $\beta$ -1 (TGF $\beta$ -1) in Human Neuroendocrine Tumour Cells," *Gut* 52:1308-1316 (2003).

Copies of the following references are not enclosed because copies were submitted with the Supplemental Information Disclosure Statements mailed in this application on April 16, 2004 and May 21, 2004, after a Final Office Action had issued:

WO 93/10151

Gearing et al., "The IL-6 Signal Transducer, gp130: An Oncostatin M Receptor and Affinity Converter for the LIF Receptor," *Science* 255(5050):1434-1437 (1992).

Japanese application JP 8-504320A with an English translation is also enclosed.

Submission of this statement is not a representation that a search has been made, nor is the inclusion of information in this statement an admission that the information is material to patentability.

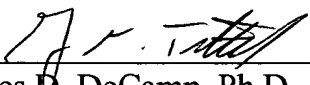
Pursuant to 37 C.F.R. § 1.97(b)(4), this statement is being filed with a Request for Continued Examination under 37 C.F.R. § 1.114.

If there are any charges or any credits, please apply them to Deposit Account No.

03-2095.

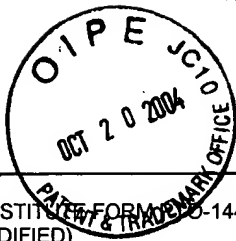
Respectfully submitted,

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SUBSTITUTION FORM PTO-1449 (MODIFIED)  INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)  (37 C.F.R. § 1.98(b))	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	Attorney Docket No.	50026/012001
		Serial No.	09/142,305
		Applicant	Ozawa et al.
		Filing Date	September 10, 1999
		Group	1634
		IDS Filed	October 18, 2004

U.S. PATENTS

Examiner's Initials	Patent Number	Issue Date	Patentee	Class	Subclass	Filing Date (If Appropriate)
	5,837,544 A	November 17, 1998	Capon et al.			
	5,686,281	Nov. 11, 1997	Roberts			
	5,747,292	May 5, 1998	Greenberg et al.			
	6,416,998	Jul. 9, 2002	O'Malley et al.			

FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION

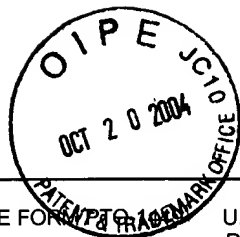
Examiner's Initials	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation (Yes/No)
	WO 93/10151	May 27, 1993	WIPO			
	JP 8-504320A	14 May 1996	Japan			Yes

OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PLACE OF PUBLICATION)

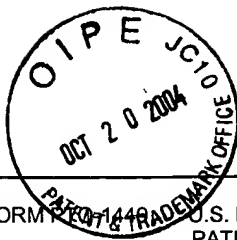
	Alexander et al., "Point Mutations within a Dimer Interface Homology Domain of c-Mpl Induce Constitutive Receptor Activity and Tumorigenicity," <i>The EMBO Journal</i> 14(22):5569-5578 (1995).
	Anderson, "Human Gene Therapy" <i>Nature</i> 392(Supp.):25-30 (1998).
	Baumann et al., "Signaling by the Cytoplasmic Domain of Hematopoietin Receptors Involves Two Distinguishable Mechanisms in Hepatic Cells," <i>J Biol Chem.</i> 269(23):16297-16304 (1994).
	Bazan, "Structural Design and Molecular Evolution of a Cytokine Receptor Superfamily," <i>Proc. Natl. Acad. Sci. USA</i> 87:6934-6938 (1990).
	Cheek, "Cancer Fears Cast Doubts on Future of Gene Therapy" <i>Nature</i> 421:678 (2003).
	Cui et al., "Inhibitory Effect of a Soluble Transforming Growth Factor $\beta$ Type II Receptor on the Activation of Rat Hepatic Stellate Cells in Primary Culture" <i>Journal of Hepatology</i> 39:731-737 (2003).
	Finer et al., "kat: A High-Efficiency Retroviral Transduction System for Primary Human T Lymphocytes" <i>Blood</i> 83:43-50 (1994).
	Gearing et al., "The IL-6 Signal Transducer, gp130: An Oncostatin M Receptor and Affinity Converter for the LIF Receptor," <i>Science</i> 255(5050):1434-1437 (1992).
	Heldin, "Dimerization of Cell Surface Receptors in Signal Transduction," <i>Cell</i> 80:213-223 (1995).
	Ihle, "Cytokine Receptor Signalling," <i>Nature</i> 377:591-594 (1995).
	Juengst, "What Next for Human Gene Therapy" <i>BMJ</i> 326:1410-1411 (2003).

EXAMINER	DATE CONSIDERED
EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with the next communication to applicant.	





SUBSTITUTE FORM 1 (MODIFIED)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		Attorney Docket No. 50026/012001 Serial No. 09/142,305 Applicant Ozawa et al. Filing Date September 10, 1999 Group 1634 IDS Filed October 18, 2004	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)					
(37 C.F.R. § 1.98(b))					
U.S. PATENTS					
Examiner's Initials	Patent Number	Issue Date	Patentee	Class	Filing Date (If Appropriate)
FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION					
Examiner's Initials	Document Number	Publication Date	Country or Patent Office	Class	Translation (Yes/No)
OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PLACE OF PUBLICATION)					
	Kakuta et al., "Inhibition of B16 Melanoma Experimental Metastasis by Interferon- $\gamma$ through Direct Inhibition of Cell Proliferation and Activation of Antitumour Host Mechanisms," <i>Immunology</i> 105:92-100 (2002).				
	Kmiec "Gene Therapy" <i>American Scientist</i> 87:240-247 (1999).				
	Marcinkowska and Więdoła "Steroid Signal Transduction Activated at the Cell Membrane: from Plants to Animals," <i>Acta Biochimica Polonica</i> 49(3):735-745 (2002).				
	Maruyama et al., "Proliferation and Erythroid Differentiation through the Cytoplasmic Domain of the Erythropoietin Receptor," <i>The Journal of Biological Chemistry</i> , 269(8):5976-5980 (1994).				
	"MBC 3320 Steroid hormones and receptors," printout from <a href="http://www.neurosci.pharm.utoledo.edu/MBC3320/steroids.html">http://www.neurosci.pharm.utoledo.edu/MBC3320/steroids.html</a> , printed out October 13, 2004.				
	Morgenstern and Land, "Advanced Mammalian Gene Transfer: High Titre Retroviral Vectors with Multiple Drug Selection Markers and a Complementary Helper-Free Packaging Cell Line," <i>Nucleic Acids Research</i> 18:3587-3596 (1990).				
	Murakami et al., "Critical Cytoplasmic Region of the Interleukin 6 Signal Transducer gp130 Is Conserved in the Cytokine Receptor Family," <i>Proc. Natl. Acad. Sci. USA</i> 88:11349-11353 (1991).				
	O'Farrell et al., "IL-10 Inhibits Macrophage Activation and Proliferation by Distinct Signaling Mechanisms: Evidence for Stat3-Dependent and -Independent Pathways," <i>The EMBO Journal</i> 17(4):1006-1018 (1998).				
	Omura et al., "Acceleration of Granulocyte Colony-Stimulating Factor-Induced Neutrophilic Nuclear Lobulation by Overexpression of Lyn Tyrosine Kinase," <i>Eur. J. Biochem.</i> 269:381-389 (2002).				
	Ozawa et al., US 2002/0004582 A1, published January 10, 2002.				
	Ozawa et al., US 2002/0004583 A1, published January 10, 2002.				
	Ozawa et al., US 2003/0166161 A1, published September 04, 2003.				
	Roussel et al., "Colony-Stimulating Factor 1-Mediated Regulation of a Chimeric c-fms/v-fms Receptor Containing the v-fms-Encoded Tyrosine Kinase Domain" <i>Proc. Natl. Acad. Sci. USA</i> 85:5903-5907 (1988).				
EXAMINER			DATE CONSIDERED		
EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with the next communication to applicant.					



Sheet 3 of 3

SUBSTITUTE FORM 1449 (MODIFIED)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		Attorney Docket No. 50026/012001		
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)		(37 C.F.R. § 1.98(b))		Serial No. 09/142,305		
				Applicant Ozawa et al.		
				Filing Date September 10, 1999		
				Group 1634		
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	Skoda et al., "Murine <i>c-mpl</i> : a Member of the Hematopoietic Growth Factor Receptor Superfamily that Transduces a Proliferative Signal," <i>EMBO J.</i> 12(7):2645-2653 (1993).					
	"Steroid Hormone Receptors and their Response Elements," printout from <a href="http://users.rcn.com/kimball.ma.ultranet/BiologyPages/S/SteroidREs.html">http://users.rcn.com/kimball.ma.ultranet/BiologyPages/S/SteroidREs.html</a> , printed October 13, 2004.					
	Thornton, "Evolution of Vertebrate Steroid Receptors from an Ancestral Estrogen Receptor by Ligand Exploitation and Serial Genome Expansions," <i>Proc. Natl. Acad. Sci. USA</i> 98(10):5671-5676 (2001).					
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